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**From:** Craig, Harry [Craig.Harry@epa.gov]  
**Sent:** 11/21/2017 6:07:25 PM  
**To:** Gerhard, Sasha [Gerhard.Sasha@epa.gov]  
**CC:** Shuster, Kenneth [Shuster.Kenneth@epa.gov]  
**Subject:** RE: OB/OD permit denials/intent to deny  
**Attachments:** HMX-Base-Hydrolysis-Bishop-2000.pdf; HMX-Base-Hydrolysis-PilotScale2.pdf

Sasha,

Much of this work was done in the 1990's and early 2000 time frame. The first report link below is dated 2002. Attached is another example on AH treatment by LANL. Dr. Bishop at LANL is probably one of the leading experts on AH treatment of explosives in the U.S.

Harry

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**From:** Gerhard, Sasha  
**Sent:** Tuesday, November 21, 2017 9:46 AM  
**To:** Craig, Harry <Craig.Harry@epa.gov>  
**Subject:** RE: OB/OD permit denials/intent to deny

Hi Harry,

Yes, it does seem odd. The intent to deny was issued by the state Secretary of the Environment as a recommendation back in 2010, so I'm not sure if there is a gap between the time of their work on AH and an evaluation of alternatives for their permit renewal.

I am hopeful too that NAS will do a thorough evaluation of AH.

Sasha Gerhard  
USEPA, Office of Resource Conservation & Recovery  
Program Implementation & Information Division, 5303P  
703-879-8501

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**From:** Craig, Harry  
**Sent:** Tuesday, November 21, 2017 12:22 PM  
**To:** Gerhard, Sasha <Gerhard.Sasha@epa.gov>; Ashby.Scott\_deq.virginia.gov <Ashby.Scott@deq.virginia.gov>; leslie.romanchik@deq.virginia.gov; Herstowski, Ken <Herstowski.Ken@epa.gov>; Newland, Jesse <Newland.Jesse@epa.gov>; Zabaneh, Mahfouz <Zabaneh.Mahfouz@epa.gov>  
**Cc:** McGoldrick, Catherine <McGoldrick.Catherine@epa.gov>; Crosby-Vega, Terri <Crosby-Vega.Terri@epa.gov>; Shuster, Kenneth <Shuster.Kenneth@epa.gov>; Kohler, Amanda <Kohler.Amanda@epa.gov>; Hendrickson, Charles <hendrickson.charles@epa.gov>; Mayer, Richard <mayer.richard@epa.gov>  
**Subject:** RE: OB/OD permit denials/intent to deny

Sasha,

It seems unusual to me that Los Alamos would not do an (adequate?) evaluation of alternatives to OB/OD, given the amount of bench and pilot scale alkaline hydrolysis work they have done on bulk explosives. I assume you have seen these studies on alkaline (base) hydrolysis (AH) of energetic materials as part of the NAS Committee deliberations. It

seems like alkaline hydrolysis (AH) was under-emphasized as a technology for alternatives to OB/OD as compared to some of the more untested ones such as MuniRem or SCWO.

Los Alamos Labs at DOE has done substantial work on AH treatment for RDX, HMX, TNT, and PETN based explosives. SERDP/ESTCP has also done some research on using AH for treatment of bulk explosives and explosives in soil, and there have been two full scale projects, Volunteer AAP in TN and Iowa AAP in IA that used AH to treat TNT and DNT contaminated soils. Hopefully AH is fully considered in the NAS report, and in site-specific evaluations of alternatives to OB/OD.

<http://www.dtic.mil/dtic/tr/fulltext/u2/a468309.pdf>

<http://www.dtic.mil/dtic/tr/fulltext/u2/a552790.pdf>

Regards,

Harry

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**From:** Gerhard, Sasha

**Sent:** Tuesday, November 21, 2017 5:26 AM

**To:** Ashby.Scott\_deq.virginia.gov <Ashby.Scott@deq.virginia.gov>; leslie.romanchik@deq.virginia.gov; Herstowski, Ken <Herstowski.Ken@epa.gov>; Newland, Jesse <Newland.Jesse@epa.gov>; Zabaneh, Mahfouz <Zabaneh.Mahfouz@epa.gov>; Craig, Harry <Craig.Harry@epa.gov>

**Cc:** McGoldrick, Catherine <McGoldrick.Catherine@epa.gov>; Crosby-Vega, Terri <Crosby-Vega.Terri@epa.gov>; Shuster, Kenneth <Shuster.Kenneth@epa.gov>; Kohler, Amanda <Kohler.Amanda@epa.gov>

**Subject:** OB/OD permit denials/intent to deny

Hello everyone,

On last month's Subpart X Permit Writer call, I had asked if the group could review a data pull of OB/OD units that were coded as intent to deny (ID) or permit denied (PD) to see if folks could find out the reason why (e.g., BRAC closure, application withdraw - never used, public opposition, risk to HH&E, etc.). As explained on the call, the National Academy of Science, Engineering, and Medicine (NASEM) is interested in learning about OB/OD units that were denied RCRA permits (or an intent to deny issued) primarily for operating, interim status units. The NASEM is trying to ascertain the factors that led to those decisions which likely will be factored into the review committee's recommendations for and against OB/OD of munitions.

I believe that the NASEM is most interested in cases such as the attached Notice of Intent to Deny Permits for Open Burning at Los Alamos – 3 reasons for denial: risk assessment showed Eco risk; large public opposition; and applicants did not adequately assess alternatives. However, this case seems to be the only one (Camp Minden is another where public opposition resulted in the decision not to allow OB/OD, and though it fell under Superfund, it is still useful for NASEM). Regardless, it would be beneficial to know the reason even if just due to base closures.

This email is being sent to those of you who have OB/OD units listed in your region or state. If you could help me out (or pass along to someone who can) by taking a look at the attached file that Chuck Hendrickson added information to for Region 6 states, and provide information in the notes column where possible, I would be very appreciative. I realize it is a holiday week, but if you could get back to me by COB next Thursday, November 30<sup>th</sup>, that would be great.

Thank you,  
Sasha

Sasha Gerhard

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